

**AMENDMENTS TO THE CLAIMS**

The listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims**

1. (Currently Amended) A method for determining locations of service instances for optimising distribution of a service in a network, from a source to a plurality of clients each having predetermined requirements, wherein said network can be modelled by means of a graph, ~~said method being characterised in that it~~ comprises steps of:

placing (40) a service instance in each leaf in said graph; and starting from the leaves, for each service instance:

checking (42) whether the service instance when placed in a vertex on the next higher level can fulfil the requirements of all clients to be served by said service instance; and

moving (43) ~~or not~~ said service instance one level higher, depending on the result of the checking step (42).

2. (Currently Amended) A method according to claim 1, ~~characterised in that it~~ further comprises the steps of determining (44) that at least two service instances meet in said vertex and combining said service instances into one service instance.

3. (Currently Amended) A method according to claim 1 ~~or 2, characterised in that it~~ further comprises a step (50), prior to said placing step (40), of determining levels in said graph.

4. (Currently Amended) A method according to claim 1, 2 ~~or 3, characterised in that wherein~~ said checking step (42) comprises a table-based analysis step.

5. (Currently Amended) A method according to ~~any of the preceding claims~~ ~~claim 1, characterised in that~~ wherein said checking step (42) comprises a Petri net analysis step.

6-7. (Cancelled)

8. (Currently Amended) A device for determining locations of service instances for optimising distribution of a service in a network, from a source to a plurality of clients each having predetermined requirements, wherein said network can be modelled by means of a graph, ~~said device being characterised in that it comprises comprising:~~

lodging means (70), for hosting a service instance;

checking means (72), for checking whether the service instance when placed in a vertex on the next higher level can fulfil the requirements of all clients to be served by said service instance;

processing means (74), for coordinating said lodging means (70) and said checking means (72) and for controlling said vertex; and

input/output means (76), for sending and receiving messages and service instances.

9. (Currently Amended) A device according to claim 8, ~~characterised in that it~~ further comprises combining means (78), for determining that at least two service instances meet in said vertex and for combining said service instances into one service instance.

10. (Cancelled)

11. (New) A system for determining locations of service instances for optimising distribution of a service in a communication network, from a source to a plurality of clients each having predetermined requirements, wherein said communication network can be modelled by means of a graph, comprising:

means for placing a service instance in each leaf in said graph;  
means for starting with each leave and determining whether said service instance, when place in a vertex on the next higher level, can fulfill the requirements of all clients to be served by said services instances; means for moving said service instance one level higher in response to an affirmative determination.

12. (New) The system of claim 11 further comprises the means for determining that at least two service instances meet in said vertex and further combining said two service instances into one service instance.

13. (New) The system of claim 11 further comprises the means for determining levels in said graph prior to placing said service instance in said each leaf in said graph.

14. (New) The system of claim 11 wherein said means for determining further comprises a table-based analysis means.

15. (New) The system of claim 11 wherein said means for determining further comprises a Petri net analysis means.